Since we know that π is the constant ratio of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , we need to use this information to discover the formula for circumference. As we already know, circumference is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ around the circle and diameter is a straight \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that passes through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and has endpoints on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The formula we used to discover π was: 

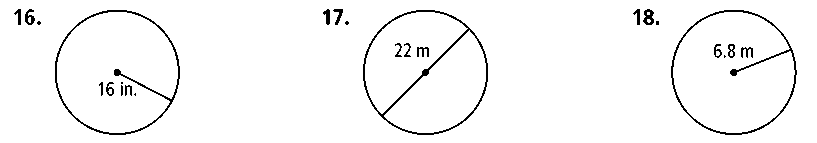
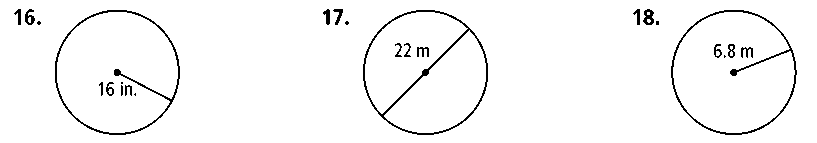
Solve the equation for C:

We can also write the circumference formula in terms of the radius. Since the radius is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the diameter (the radius is the distance from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_), we can replace the *d* in our equation with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

***Circumference Formula***:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

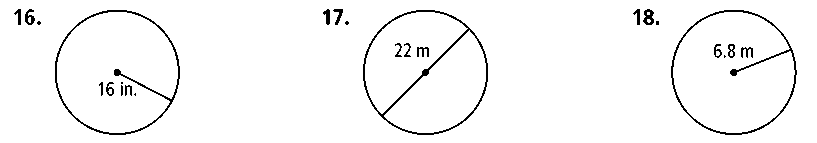
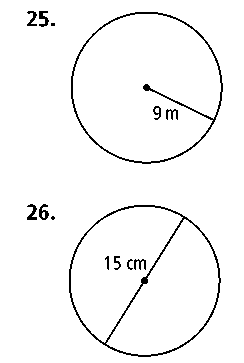
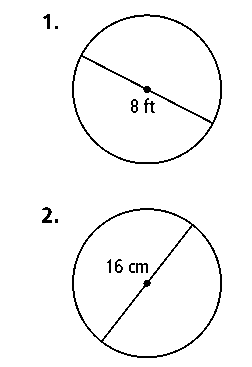
*For the following problems, solve for the circumference and* ***leave your answer in terms of π.***

I DO: 1. 2.

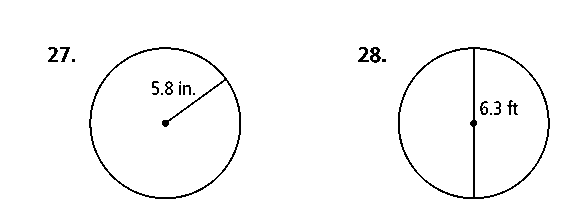
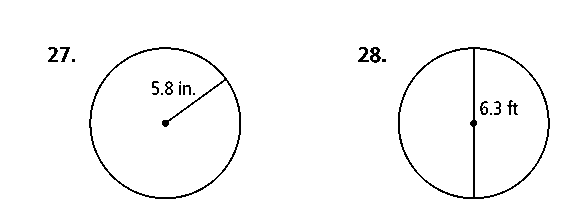


WE DO:

3. 4. 5.



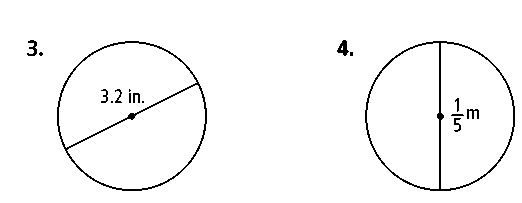
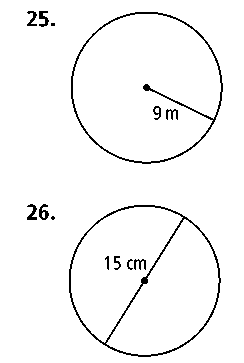
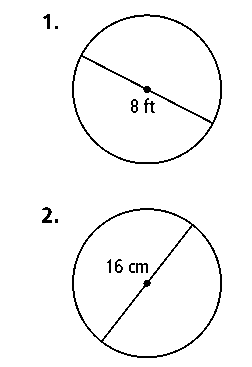
*For the following circles, approximate the circumference by* ***substituting 3.14 for π*** *in the circumference formula.*



I DO: 6. 7.

WE DO:

8. 9. 10.



Now suppose I already know the circumference, but I would like to find the diameter (or radius).

In our formula, , solve for *d*:

**Formula for Diameter**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Once again, if I wanted to write the formula in terms of radius, I would have to substitute \_\_\_\_\_\_\_\_\_\_\_ in for *d*.

Now substitute that value for d and solve for radius.

**Formula for Radius**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For the following circles, solve for the stated value.

I DO: 11. C=60 *d*= 12. C=10 *r*=

WE DO:

13. C=9 *d*= 14.C=7 *r*= 15. C=30 *r*=

Final Check:

|  |  |  |  |
| --- | --- | --- | --- |
| doc6_03A. C= | B. *d*= | C. *r*= |  |